

Remarks

This amendment responds to the Office Action mailed November 19, 2002 and the PTO Response mailed June 17, 2003. The time for response has been extended to and including May 19, 2003, and our check for the extension of time fee accompanied the originally filed Amendment. This document is due to be filed on or before July 17, 2003. If additional fees are required, or if overpayment has been inadvertently made, please charge or credit our account number 50-1794 accordingly.

The drawings (Figures 13 and 14) and specification (pages 6 and 7) are corrected to overcome the objections set forth in Paragraphs 1, 2, and 4 of the Official Action. No new matter is added.

All the claims have been first rejected under 35 U. S. C. Section 112. The rejections (for insufficient antecedents) have all been attended to in this amendment.

Claims 1 – 8 and 10 have been rejected under 35 U. S. C. Section 103, principally in view of Calegan U.S. patent 4,055,972. Applicants' claim 1 calls for, among other things, "the nose portion of the bottom tumbler comprising an axially extending male nose, the nose having a plurality of radially varying formations symmetrically disposed around the circumferential surface on the nose, the nose being adapted to fit within and engage the recess defined in the knob portion of the knob and dial element in any one of a finite plurality of angularly spaced apart positions." The examiner believes that "Calegan ... discloses that the nose portion could have a flat surface that engages a similar flat surface in the female recess (column 4 lines 3-5). Applicant is reminded that the duplicating of components of a prior art device is a design consideration within the skill of the art. In re Harza, 274 F2d 669, 124 U. S. P. Q. 378 (CCPA 1960)."

Applicants respectfully traverse this rejection, and solicit its withdrawal. This invention is not a mere duplication of parts, but is rather the novel introduction of "a plurality of radially varying formations symmetrically disposed around the circumferential surface of the nose... (so that the nose will) fit within

and engage the recess defined in the knob portion of the knob and dial element in any one of a finite plurality of angularly spaced apart positions," as called for in claim 1. This nose formation redesign provides a huge reduction in inventory parts for the lock manufacturer, and a surprising reduction in manufacturing and production costs. The Harza decision itself recognizes that duplication of parts can have patentable significance if a new and unexpected result is produced. 124 USPQ at 380. That new and unexpected result is achieved here; it is a dramatic drop in inventory and costs.

As noted at pages 1 and 2 of this application, the claimed invention permits the manufacturer to reduce the number of parts required to be kept in inventory by as much as 80 percent or more. Under prior practice, fixed relationships were established between the three lock tumblers and the lock dial. Thus, for every combination lock offered for sale, a lock with that combination must be individually manufactured and stocked. If the manufacturer chose to offer 5000 distinct combinations, for example, manufacturing and stocking requirements would dictate that 5000 inventory storage bins or locations be created to individually store all those combination padlocks.

This invention provides revised designs for the knob and dial element and for the mating bottom tumbler element, and provides a new method of assembly so that relatively few partially assembled locks can be inventoried. When required, the lock assembly can be quickly and easily completed. The assembly can have any one of a large number of lock opening combinations.

The invention provides a knob and dial element and a bottom tumbler element with a regular polygonal shape (for example, an octagonal array) of mating surfaces. By positioning the dial in any one of the eight positions of the octagon, spaced apart by 45 degrees, it is possible to obtain eight distinct combinations that are translated by increments of five dial numerals.

Thus the invention reduces the manufacturing and stocking requirements for bottom tumblers from 40 to 5, thereby reducing inventory, tooling requirements, and consequent manufacturing costs.

A related object of the invention is to provide redesigned knob and dial elements and bottom tumbler elements which will permit the knob and dial

element to be the last component assembled to the padlock, thus allowing non-dedicated sub-assemblies to be stored without dials. The sub-assemblies will be kept in inventory awaiting customer orders. When locks are ordered, dials will be specifically assembled on the padlocks based on customer orders and requirements.

Another specific object on the invention is to provide the bottom tumbler elements and dial elements in forms which are designed to accept a commercially available blind rivet of the "POP" blind fastener variety. This permits the dial to be attached to the lock assembly even though access to the assembly is available from one side only. The normal assembly action of the blind rivet pulls the bottom tumbler and dial together to create a positive seating action between these elements in a rapid and economical manner.

None of these results or objects are obvious, or suggested by, or even hinted at by the old Calegan '972 patent. The Examiner will note that the '972 patent was issued to applicants' assignee. For over a quarter-century, applicants' assignee and its competitors have searched for ways to reduce lock component inventory and the attendant part manufacturing, storage, and other overhead costs. This evidence of long felt but unsolved needs, so clearly present here, has relevancy as indicia of non-obviousness. *Graham vs. John Deere Co.*, 383 U.S. 1, 17-18, 148 U.S. P. Q. 459 (1966).

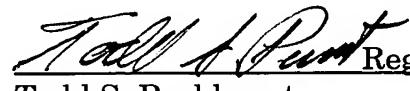
The Examiner's attention is drawn to claim 8 "wherein eight flats are formed on the knob recess knob dial and recess and a corresponding eight flats are formed on the nose of the bottom tumbler and nose element." Surely mating octagonal shapes are not the same as the examiner's "one flat surface of varying formation." Importantly, those claimed mating octagonal shapes reduce the inventory of needed parts from 40 to 8, a reduction in numbers of inventoried parts and consequent expense of 80 percent. Hypothetical combinations or repetitions of the prior art should not defeat patentability where the evidence so clearly shows that several long-standing problems of considerable financial importance were solved. *Micro Chemical, Inc. vs. Great Plains Chemical Company*, 103 F.3d 1538, 41 U. S. P. Q. 2d. 1238 (CAFC 1997).

The specification and drawings have been corrected.

The amendments to the specification and claims are presented on separate sheets in both marked-up and cleanly typed format. The undersigned attorney believes this fully complies with the Examiner's request and the PTO Rules of Practice.

Since all the claims presented now appear to be formally proper and to patently define over the prior art, and since the application appears to otherwise be in condition for allowance, an early Action to that effect is earnestly solicited.

Respectfully Submitted,


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